

# **STEPS TO SURVIVAL**



**CANAD  
EMERGENC  
MEASURES  
ORGANIZATI**

Department of National Defense

Blueprint for Survival No. 4

## **INTRODUCTION**

*The Canadian Government has joined other peace-minded nations in doing everything possible to reduce world tensions, to assist in the settlement of international disputes by peaceful means and to achieve disarmament with such controls as are necessary to preserve the security of all nations. However, the awesome threat of a major nuclear war involving North America remains a factor in plans for the defence of Canada.*

*The nature and scale of a possible nuclear attack on North America, and the extent to which Canada would be involved in such an attack, cannot be predicted with accuracy. Our major centres would be at some risk of deliberate attack, random explosions could occur, and there would be the certainty of the danger from widespread, radioactive fallout over most of the Country.*

*Governments at all levels have made, and are continuing to make, preparations which will reduce the number of casualties, safeguard survivors and contribute to the capacity of this nation to survive and recover from such a tragedy. The purpose of this booklet is to assist individuals and families in making personal survival plans and preparations to guard themselves against the potential dangers of nuclear war.*

*Many of the precautions which are recommended will serve a double purpose in that they will save lives in peacetime disasters such as flood, tornado, fire, hurricane, blizzard, ice storm or earthquake. Attention has been directed to this important feature throughout the various steps.*

*All Canadians are urged to read "11 Steps to Survival" with care to act on the advice it contains and to keep it handy for emergencies.*

## **THE ELEVEN STEPS TO SURVIVAL**

Governments and communities at all levels are planning for the survival of our Nation in the event of a nuclear war. But the survival of individuals also will depend upon the preparation that each person makes. Persons ready to take the right action before and following an attack will increase their chances of survival.

This pamphlet describes what **YOU** can do before and following a nuclear attack. You can greatly increase your family's and your own protection by taking the **Eleven Steps to Survival**:

- (1) Know the effects of nuclear explosions.**
- (2) Know the facts about radioactive fallout.**
- (3) Know the warning signal and have a battery-powered radio.**
- (4) Know how to take shelter.**
- (5) Have fourteen days emergency supplies.**
- (6) Know how to prevent and fight fires.**
- (7) Know first aid and home nursing.**
- (8) Know emergency cleanliness.**
- (9) Know how to get rid of radioactive dust.**
- (10) Know your municipal plans.**
- (11) Have a plan for your family and yourself.**

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# STEP 1

## KNOW THE EFFECTS OF NUCLEAR EXPLOSIONS

A nuclear explosion releases vast amounts of energy in three forms:

- (a) Light and heat;
- (b) Blast;
- (c) Radiation.

The amount of energy released depends upon the size and design of the weapon. A wide range of weapons and delivery systems are available to an aggressor and we have no way of knowing what size of explosions might take place in Canada. For illustration purposes, we describe in this pamphlet the effects of a 5-megaton H-bomb equal to the explosive force of five million tons of TNT. Such a bomb could substantially damage the largest Canadian city.

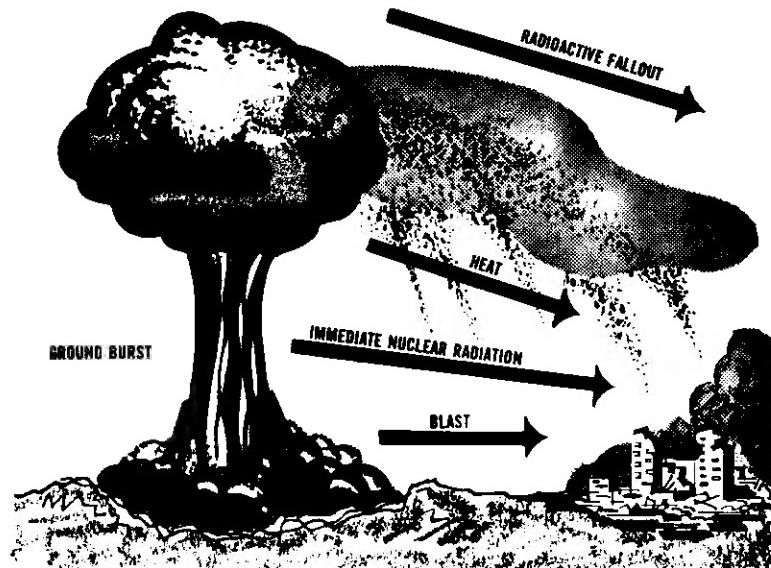
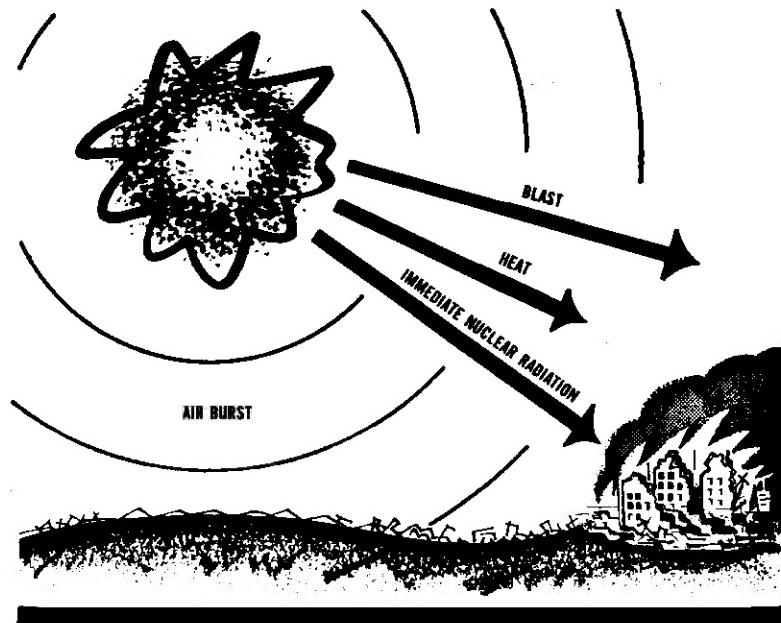
The effects depend upon whether the weapon is exploded high in the air, or on, or near the ground. An air burst usually produces more fire and blast-damage than a ground burst which results in a big crater and more radioactive fallout. The effects described below are approximate for a 5-megaton explosion and can only be approximate since effects depend upon a number of conditions such as weather, terrain, etc.

### Light and Heat

A blaze of light brighter than the sun is produced by a nuclear explosion. It lasts for about 15 seconds. Temporary blindness and eye injury can result from the glare if eyes are not shielded.

The heat rays from the explosion travel at the speed of light or about 186,000 miles per second. It can start fires up to 20 miles away. Many fires are caused when the heat pulse comes through a window to set fire to curtains, paper, clothing and furniture. The heat flash also can set fire to the outside of wooden buildings.

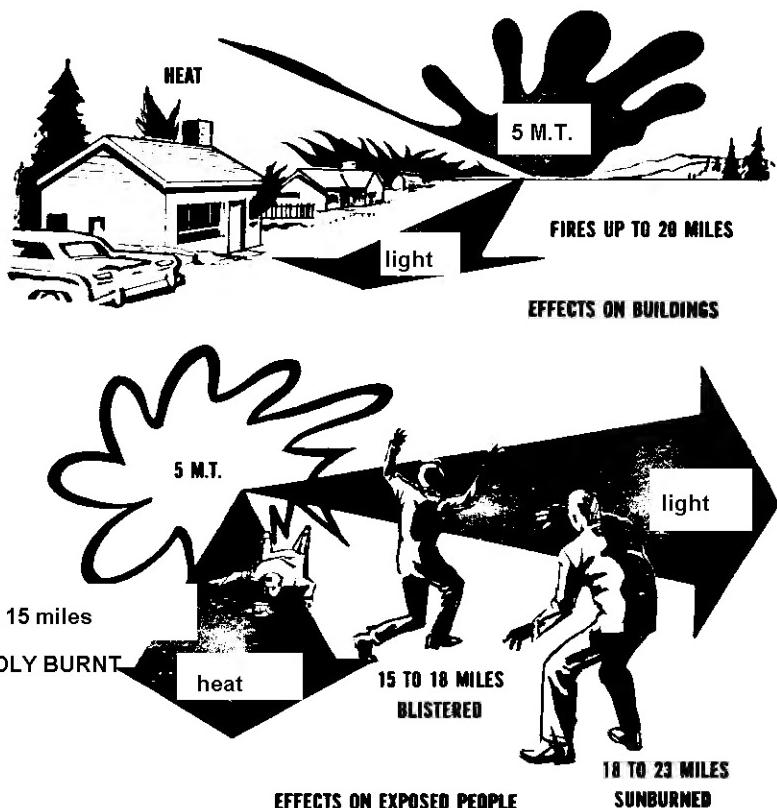
The following are some examples of the predictable effects on



unprotected skin of the heat flash of a 5-megaton weapon exploded on a clear day:

- Skin is badly burned up to 15 miles from the explosion.
- Skin is blistered up to 18 miles from the explosion.
- Sunburn types of burns up to 23 miles from the explosion.

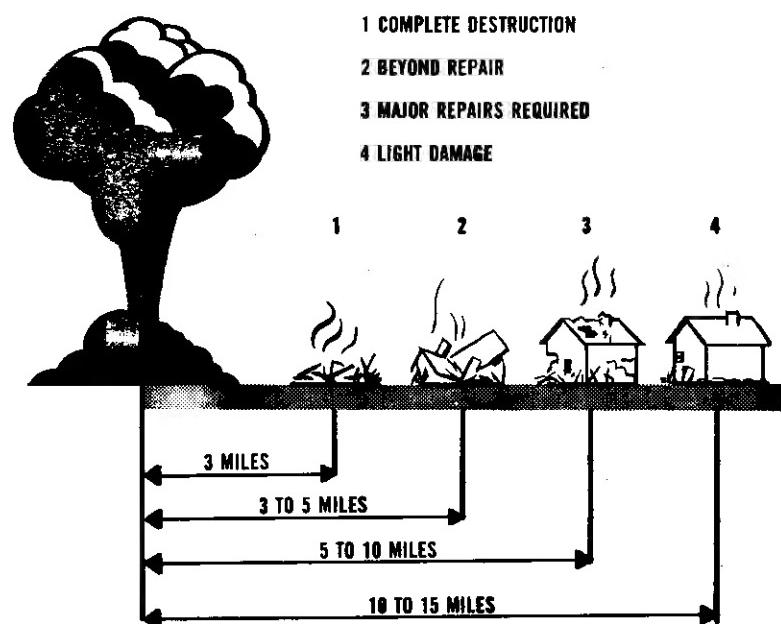
Nuclear explosions in the air rather than on the ground are more likely to produce a greater number of serious burns through the heat flash. Clothing will give some protection. A shield between you and the light will give protection against burns from the heat flash.



## Blast

The blast wave travels more slowly than the heat flash. Several seconds may pass after you have seen the light or felt the heat before the blast wave reaches you, depending on the distance you are from the explosion. It is like the time between seeing the flash of lightning and hearing the sound of thunder. For example, at ten miles from the centre of an explosion, it would take about 35 seconds for the blast wave to reach you. If caught in the open during a nuclear explosion, this time can be used to find some protection from the blast wave.

You might be injured by being thrown about by the blast; therefore, keep low. The greatest danger is from flying glass, bricks and other debris. The blast from a 5-megaton explosion could injure people as far away as 15 miles.



The kinds of damage that the blast can do to buildings are:

- Complete destruction of all buildings three miles from the centre of the explosion.
- Damage beyond repair to buildings three to five miles distant. They would have to be torn down.
- Major repairs required to buildings five to 10 miles distant before they could be occupied.
- Light to moderate damage to buildings 10 to 15 miles distant. They could be occupied during repairs.

A 20-megaton bomb increases the approximate ranges of damage described above to five, eight, sixteen and twenty-four miles.

These are approximate distances as the strength of buildings is not uniform. For example, reinforced concrete buildings are more blast resistant than wood frame structures. In some areas four miles away from the explosion, concrete buildings might be repairable, while wood frame buildings would be completely destroyed. Windows, of course, are very vulnerable and are apt to be blown in as far away as 25 miles from the explosion.

### Radiation

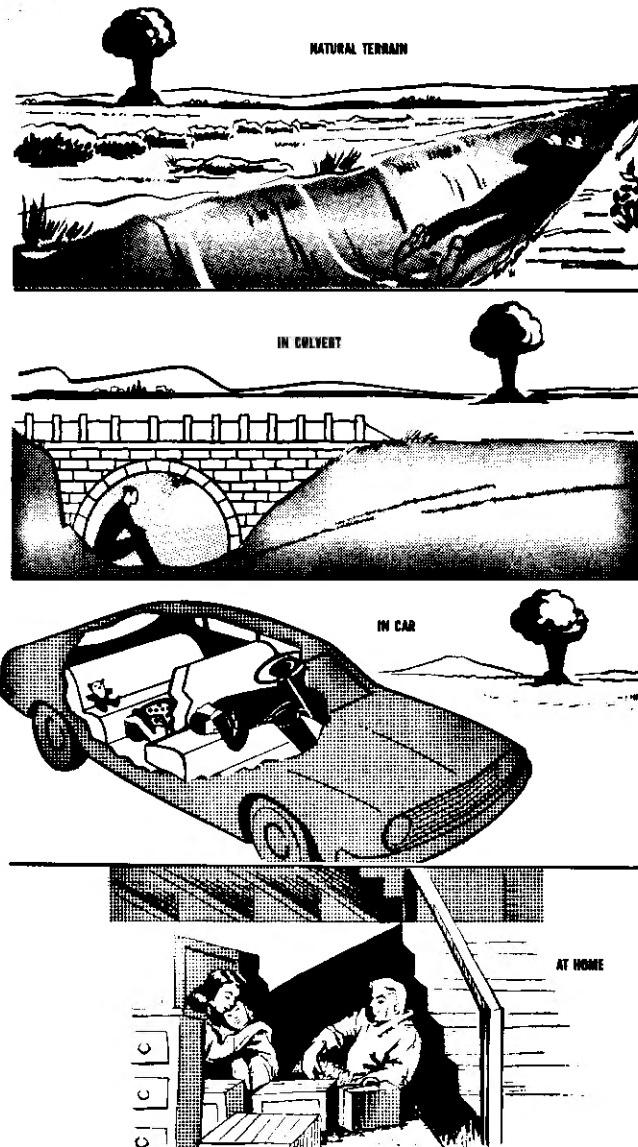
A nuclear explosion causes both immediate radiation and residual radiation.

Immediate radiation is given off at the time of the explosion. It is dangerous only within two or three miles. If you were near the explosion without adequate protection and managed to survive the effects of blast and fire, you could still be seriously affected by immediate radiation.

Residual radiation is given off by the radioactive particles left as "fallout" after the explosion. The danger from fallout would be so great and widespread that it is discussed separately, in Step 2.

### Protection against Heat, Blast and Immediate Radiation

The illustrations below show some of the most probable situations in which you might find yourself at the time of a nuclear attack, and what you should do:



## KNOW THE FACTS ABOUT RADIOACTIVE FALLOUT

If a nuclear weapon is exploded on, or near, the ground, the danger from radioactive fallout is greatest. The force of the explosion may make a crater up to a mile wide and to a depth of one hundred feet. Millions of tons of pulverized earth, stones, buildings and other materials are drawn up into the fireball and become radioactive. Some of the heavier particles spill out around the point of explosion. The rest are sucked up into the mushroom cloud.

This radioactive material is then carried by winds until it settles to earth. This is called "Fallout". Under some circumstances you may see the fallout; under others you may not.

The radioactivity it gives off cannot be seen. You can't feel it. You can't smell it.

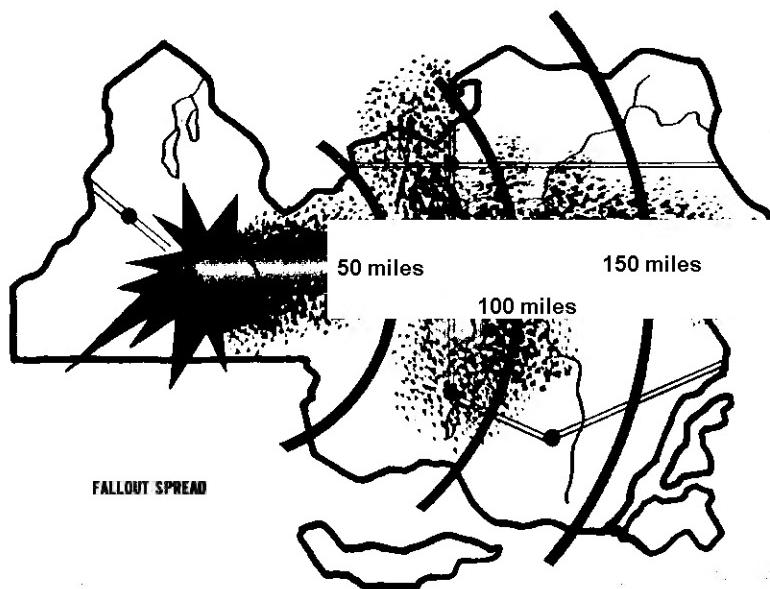
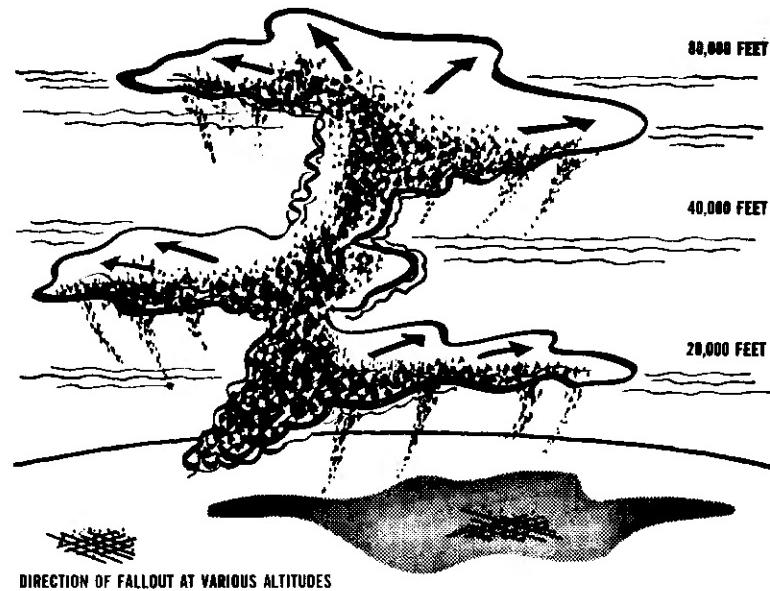
But fallout doesn't come out of the sky like a gas and seep into everything. It can best be described as a fine to coarse sand carried by the winds. Because the wind direction varies at different heights above the ground, it is not possible to judge from the ground where the fallout will settle. It can settle in irregular patterns hundreds of miles from the explosion.

The fallout from a 5-megaton explosion could affect seriously an area of 7,000 square miles. If nothing were done to gain protection during the period of high radioactivity, there would be a grave danger to life in that area.

Because fallout is carried so far and covers such a large area, it could be the greatest danger to the largest number of Canadians in a nuclear war. If Canada was not hit by nuclear bombs, those exploding in the United States close to our border could result in serious fallout in many parts of Canada.

There are four things which determine the amount of radiation reaching your body from fallout.

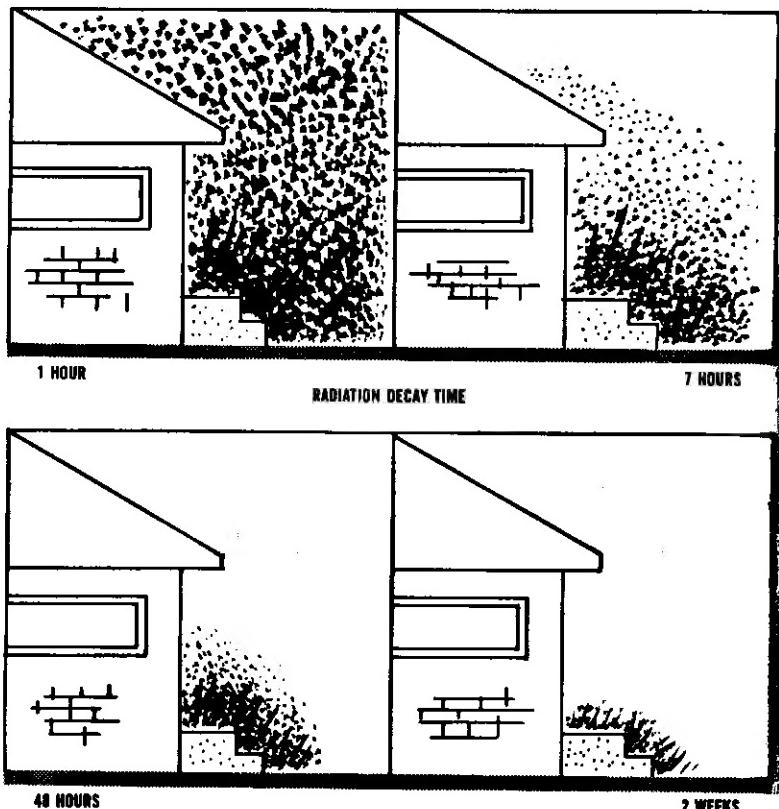
- (1) The *time* that has passed since the explosion.
- (2) The *length of time* you are exposed to fallout.
- (3) The *distance* you are from the fallout.
- (4) The *shielding* between you and the fallout.



## Time

The radioactivity in fallout weakens rapidly in the first hours after an explosion. This weakening is called "decay". After seven hours, fallout has lost about 90% of the strength it had one hour after the explosion. After two days it has lost 99%; in two weeks 99.9% of its strength is gone. Nevertheless, if the radiation at the beginning were high enough, the remaining 0.1% could be dangerous.

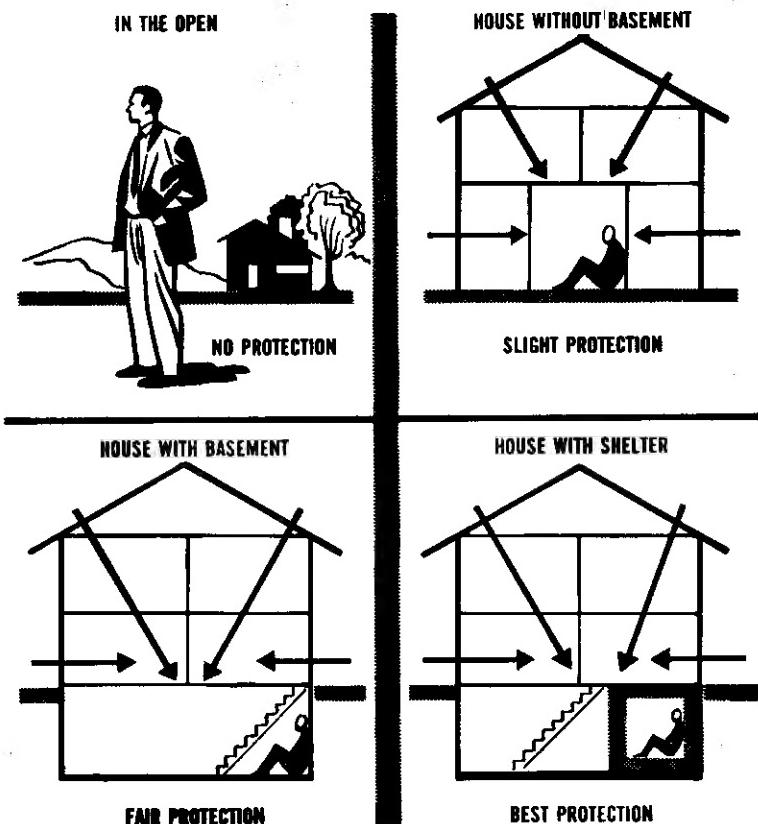
Radiation must be measured by special instruments handled by people trained to use them. But, if you stay in a shelter during the



first days following an explosion, you escape the strongest radiation. You should stay in the shelter until radiation has been measured and you have been told over the radio that it is safe to come out.

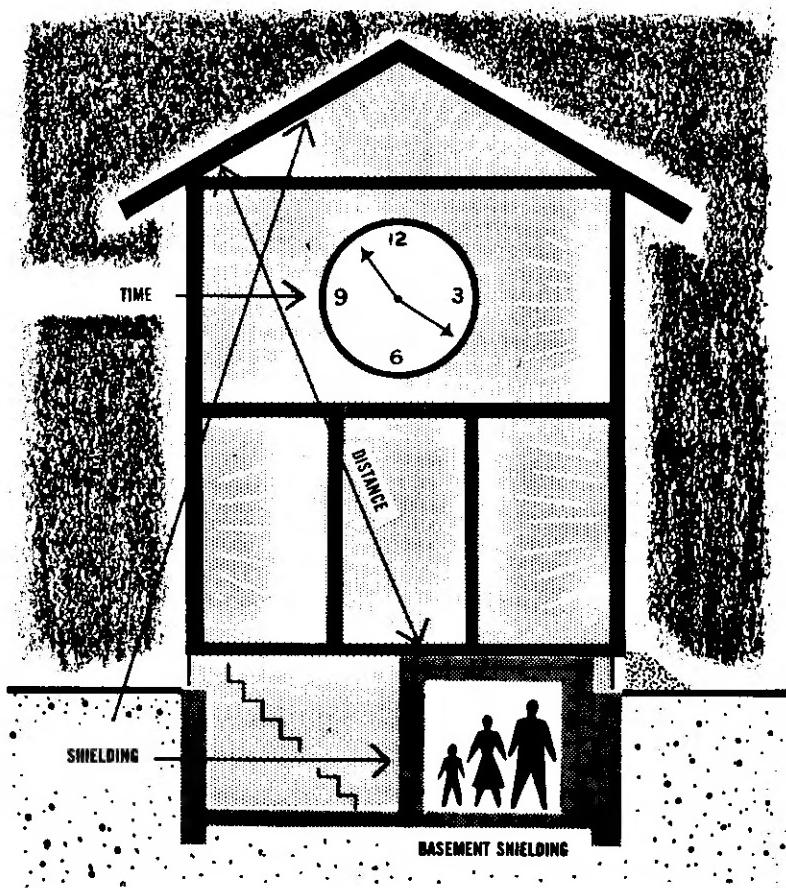
## Distance

The strength of radiation reaching your body is reduced the farther you are from the fallout. Here are some illustrations of the safest place to be when you are in various kinds of buildings.



## Shielding

The most effective protection is to place some heavy material between yourself and the fallout. The heavier the material the better the protection. Many common materials give excellent protection. The materials and design of the fallout shelter recommended in Blueprint for Survival No. 1 will stop penetration of 99% of outside radiation.



These thicknesses of material will stop 99% of radiation:

- (a) 16 inches of solid brick;
- (b) 16 inches of hollow concrete blocks filled with mortar or sand;
- (c) 2 feet of packed earth — 3 feet if loose;
- (d) 5 inches of steel;
- (e) 3 inches of lead;
- (f) 3 feet of water.

A fallout shelter is the best way to protect your family and yourself against radiation because:

- (a) It keeps the radiation at a *distance*.
- (b) It *shields* you from radiation.
- (c) The *time* spent there is the period when radiation is most intense.

By providing your family and yourself with a fallout shelter, you are unlikely to suffer serious effects from radioactive fallout.

## Personal Danger from Fallout

Radioactive particles in contact with your skin for a few hours may produce burns. Follow Step 9 to prevent this danger.

Radioactive particles swallowed in food or water might be harmful. Follow Step 9 to prevent this danger.

Radioactivity from an area of fallout may produce illness in the unprotected individual after a few days. Follow Step 4 to prevent this danger.

Radiation illness develops slowly. It cannot be spread to other people. Except for temporary nausea shortly after exposure, evidence of serious effects from radiation may only appear after an interval of from a few days to three weeks. A combination of loss of hair, loss of appetite, increasing paleness, weakness, diarrhoea, sore throat, bleeding gums and easy bruising indicate that the individual requires medical attention. *Nausea and vomiting may be caused by fright, worry, food poisoning, pregnancy and other common conditions.*

**STEP  
3**

### **KNOW THE WARNING SIGNAL AND HAVE A BATTERY-POWERED RADIO**

All Canadian communities where there is a likely need are provided, or will be provided, with sirens. Other areas should have warning arrangements based on local systems such as telephones, horns, bells or factory whistles.

Warning devices are only attention-getters. Dependent on the size of your municipality, the sirens, bells, telephones, etc., will sound the Attack Warning.

There is one type of siren warning signal in Canada:

#### **The ATTACK WARNING Signal:**

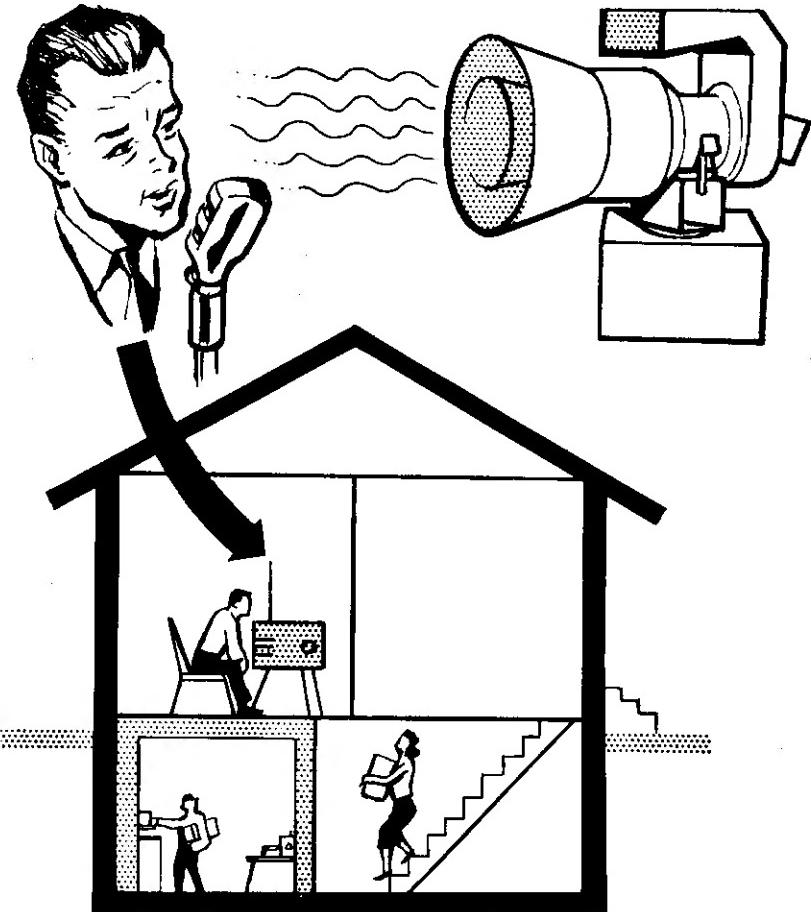
**The ATTACK WARNING Signal** — A wailing (undulating) tone on the sirens of three to five minutes duration or short blasts on horns or other devices repeated as necessary means:

1. An attack on North America has been detected;
2. Warning of fallout.

**WHEN YOU HEAR THE WARNING SIGNAL, YOU SHOULD TAKE PROTECTIVE ACTION AND LISTEN TO THE RADIO FOR INSTRUCTIONS.**

#### **A Radio is Essential**

When the Attack Warning sounds, you *must* take protective action. *Take a battery-powered radio with you.* Broadcast advice and instruction may help to save your life. If you don't have a portable radio, turn up the volume of your house radio so that it can be heard in your shelter. If away from home you are forced to take emergency shelter and are near a radio-equipped vehicle, turn up the volume and open all the vehicle's doors or windows.



The Canadian Emergency Broadcasting System, a network of all Canadian radio and television stations which will be formed when a nuclear attack on Canada has been detected, will tell you when and how to take emergency protective action against possible attack and shelter against fallout if an attack occurs.

## **Before Attack**

If sirens or warning systems signal impending attack, regardless of where you are or what you are doing, you *must* take the best available cover against the blast, heat and light effects of nuclear explosions.

Emergency broadcast instructions will include the following advice:

- (1) If you are at home go to the basement or strongest part of your house or building which offers the best protection. If material is handy, improvise blast protection. See Step 4.
- (2) Take your battery radio with you, or turn up the house radio so that you can hear it while under cover.
- (3) Stay away from windows.
- (4) Lie down and protect yourself from flying glass and falling debris.
- (5) Shield your eyes from the flash of an explosion.
- (6) If you are away from home take protective cover immediately.
- (7) If you are travelling, stop and take protective cover immediately, or if you are only a few minutes from a safe destination, proceed and take protective cover immediately.
- (8) Listen to your radio for further instructions.

## **After Attack**

If sirens or warning systems sound following nuclear attacks, the warning may mean another attack or that radioactive fallout is approaching your area. **You will be advised over the radio.** If the advice concerns fallout, you *must* take cover against the fallout effects. (See Step 4).

Radio broadcasts will identify areas which will be affected by the fallout and give instructions and advice. These might include:

- (1) Location of nuclear explosions causing local fallout.
- (2) Information about the parts of the country to be affected by fallout.

- (3) Length of time before fallout is likely to reach specific communities or areas.
- (4) Ways to increase fallout protection.
- (5) Supplies to take to your fallout shelter.
- (6) Whether it is safer to stay in your community or area, or to go to other areas.
- (7) Advice as to which areas are free of danger.
- (8) Advice on when to leave shelters and for how long as danger from radioactive contamination diminishes.
- (9) Requests for help in rescue operations, such as rescue, firefighting and medical assistance.
- (10) Advice on conservation of food, water and fuel.
- (11) How to keep warm when power is off and the weather is cold.

## **Don't Use The Telephone**

When the sirens sound don't use the telephone. Listen to a radio or television for information. In the event of an Attack Warning telephone lines will be required for official use.

## KNOW HOW TO TAKE SHELTER

It is important to provide your family and yourself with a shelter. But what kind of shelter? This is a decision you must make yourself after studying the problem.

Study your shelter requirements in the same way that you would accident or fire insurance. Decide upon the degree of protection you want for your family and yourself. Shelter is your insurance against something you hope will not happen, but if it does, will give you protection.

Shelters of the type commonly used in Europe during the Second World War would not provide protection against the blast of a nuclear explosion. They were designed to withstand short shock pressures lasting something like 1/100th of a second. Shelters designed to withstand the pressures created by a nuclear explosion must be able to stand up to pressures lasting as long as 6 seconds. In addition, they must be capable of giving the occupants protection against fires outside the shelter as well as against radiation.

The fallout shelter is designed to give protection against radioactive fallout only. Because most people in Canada probably would



not be affected by the blast and heat effects of nuclear explosions, protection against fallout is all that is required by them.

The type of shelter for good protection depends upon the distance it will be from the explosion. Unfortunately, it is not possible to know this in advance. That is why each individual must make his own decision when selecting the type of shelter he wishes to have.

Blueprint for Survival No. 1 gives details of a fallout shelter for the home in which you now live. If you rent the home, the decision to construct a shelter must be taken jointly with your landlord.

Blueprint for Survival No. 2 gives details of a fallout shelter for the new home you may be planning to build.

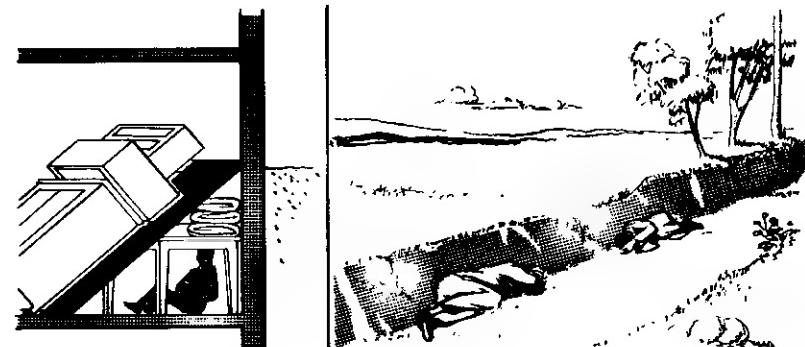
Blueprint for Survival No. 6 gives details of blast shelters which may be built outside the home.

These pamphlets are available from your local Emergency Measures or Civil Defence Organization.

### Improvised Protection Against Blast

One of the simplest ways to improvise some anti-blast protection is to build a lean-to (bed springs or boards) against a work bench or heavy table, preferably in the basement, and pile mattresses on it and at the ends. If the material is readily available it could be built in a matter of minutes after the **ATTACK WARNING** is sounded and could protect you from loose bricks, flying glass, etc.

If you are in the open and there is a ditch or culvert within easy,



quick reach, lie face down in it and cover your face with your arms. Make sure this shelter is not too close to buildings which could collapse into it.

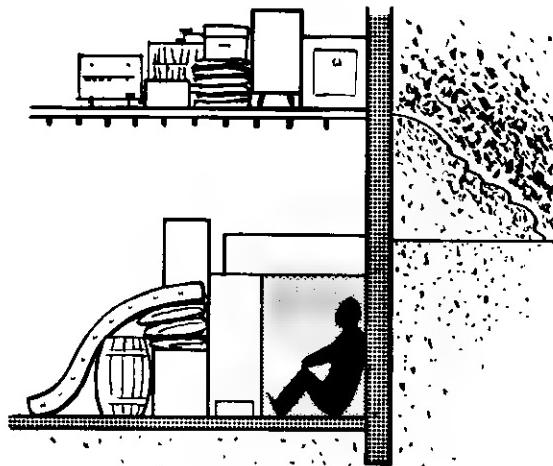
"After" the blast and heat of the explosion, you would have to find other protection against fallout which will come down later. (Don't forget your battery-powered radio).

None of these improvisations is as good as a properly equipped blast shelter, but any single one of them could mean the difference between life and death.

### Improvised Protection Against Fallout

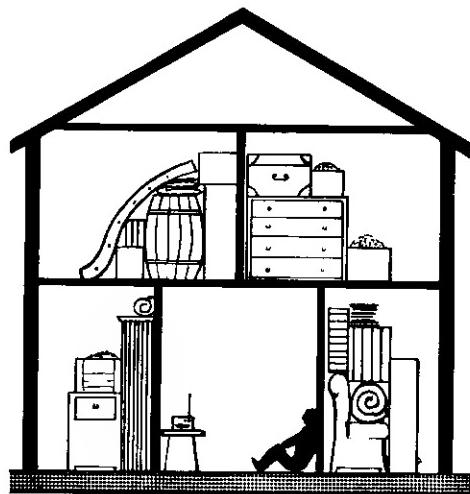
You may not have a fallout shelter when warning of approaching fallout is broadcast. Here are some tips on how to increase your protection in a basement. The amount of protection you can build will depend on how much time you have available until fallout arrives.

- You can improvise a small emergency shelter by using furniture, doors, dressers, work-bench and other materials.
- Select a corner of your basement, if possible away from windows, in which to build your shelter. Remove inside house doors from hinges to use as a shelter roof over supports. Supports for the improvised roof can be cabinets, chests of drawers, work-bench, or anything which will bear a heavy load. Use the house doors as a roof surface to provide a base for the heavy material you will have to place on it. Bricks, concrete blocks, sand-filled drawers or boxes, books or other dense items on the roof will help reduce radiation penetration. Around the sides and front of your shelter build walls of dense materials to provide vertical shielding. A small cabinet or dirt-filled box as may be used as a crawl-in entrance which can be closed behind you.
- Remember, the heavier or more dense the material around you, the greater the protection.
- Block basement windows with earth, bricks, concrete blocks, books or even bundles of newspaper. In winter, use packed snow.



- On the floor above the corner of the basement you select as your shelter area, pile any heavy objects you may have available, such as furniture, trunks filled with clothes, dirt-filled boxes, books, newspapers, or earth from outside.
- Outside, against above ground walls of the basement around your shelter area heap earth, sand, bricks, concrete blocks or packed snow.

If your home has no basement or crawl space, build your emergency shelter in that part of the house (centre hall or clothes closet) farthest away from outside walls and the roof. Build it as described for houses with basements. On the floor immediately above your shelter area, and against surrounding walls, pile up furniture, trunks, dressers, dirt-filled boxes or other heavy material which will reduce radio-active penetration into your emergency shelter.



### **WHEN YOU GO INTO YOUR SHELTER DON'T FORGET YOUR BATTERY RADIO**

### **HAVE 14 DAYS EMERGENCY SUPPLIES**

Nuclear attacks on centres of production, and fallout conditions, may curtail the distribution of available food stocks for several days or even weeks following these attacks. Persons who had taken shelter against fallout might be advised to stay in their shelters for as long as 14 days. Those who had chosen to evacuate larger cities would be dependent largely on the resources available in reception towns. Because of these possibilities, it is recommended that every person should have emergency supplies. These supplies should include food, water, battery-powered radio, first aid kit, and where necessary, medical supplies as recommended in Step 7. Heavy clothing would be necessary in winter. Extra changes of clothing should be considered particularly stockings and under-clothing.

For those who may choose to evacuate major centres, supplies must be selected carefully because of space limitation in the family car. Supplies should be packaged beforehand so that they can quickly be put into the car. See the pamphlet "Your Emergency Pack" available from your local Emergency Measures or Civil Defence Organization.

Many of the recommended items are already in your home.

Whether you choose to evacuate or take shelter locally, you should have a road map with you. You could then relate the information about areas under fallout, which you would hear about on the radio, to your actual location. Toys, games, books for your children would help to occupy their time if they had to remain in shelter from fallout. Your battery-powered radio will keep you in contact with the outside world.

The following is a suggested list of items from which your two weeks' supplies should be developed to be in your shelter or handy to it.

#### **Equipment**

Beds (bunks or folding)  
Bedding

Toilet  
Polyethylene bags for toilet

**Table (folding or other)**  
**Stools (folding)**  
**Cups and plates (disposable)**  
**Knives, forks, spoons**  
**Can opener**  
**Cooking utensils**  
**Kerosene cooker\***  
**Kerosene lamp**  
**Kerosene –**  
 (sufficient for  
 14 days)  
**Candles**  
**Safety matches**  
**Hand basin**  
**Calendar**

**Paper towels**  
**Garbage can – (two if no waste water runoff is possible)**  
**Garbage bags**  
**Shovel**  
**Broom**  
**Battery radio and spare batteries**  
**Electric lamp – and spare bulbs**  
**Clock**  
**Flashlight and spare batteries**  
**Fire extinguisher**  
**Hand tools**  
**Pocket knife**  
**Axe**  
**String**  
**Light rope**

\*Don't use a pressurized stove in the confines of your shelter.

### **Recreational**

**Books**  
**Paper**  
**Pencils**  
**Playing cards**  
  
**Chess, checkers, other games**  
**Crosswords, other puzzles**  
**Knitting, sewing, etc.**  
**Hobby materials**  
**Plasticine**

### **Toiletries**

**Soap, toothpaste,**  
**Toothbrushes**  
**Detergent**  
**Nail brush**  
**Razor, blades and soap**  
  
**Women's basic cosmetics**  
**Tissues (face and toilet)**  
**Face cloth**  
**Towels**  
**Brush and comb**

### **Clothing and Personal Items**

Coveralls, rubber boots, rubber gloves for adults. To be used in venturing outside even after instructions have been given that this is

safe for short periods.

<b>Bedding (blankets preferable)</b>	<b>Baby clothes</b>
<b>Warm sweaters and socks</b>	<b>Baby feeding equipment</b>
<b>Change of underclothing and socks</b>	<b>Disposable diapers (two-week supply)</b>
<b>Personal hygiene items for women</b>	<b>Plastic sheeting</b>
	<b>Legal papers</b>

### **Medical**

(See Step 7)

### **Food**

These are suggested items and amounts for each adult for 14 days in shelter. Check off the items as you stock them in the shelter and mark the purchase date on them. Food stored for emergency use should be used and replaced at least once a year.

<b>Milk:</b>	14 cans (6-oz) or 6 cans (15-oz) evaporated milk or 1-lb dried skim milk
<b>Vegetables:</b>	6 cans (15 or 20-oz) – beans, peas, tomatoes, corn
<b>Fruits:</b>	6 cans (15 or 20-oz) – peaches, pears, apple sauce
<b>Juices:</b>	6 cans (20-oz) – apple, grapefruit, lemon, orange and tomato
<b>Cereals:</b>	14 individual packages (sealed in wax bags inside or outside)
<b>Biscuits:</b>	2 packages of crackers (1-lb. each)
<b>Main Dish Items:</b>	2 packages of cookies or graham wafers
	2 cans meat (12-oz) – corned beef, luncheon meats
	2 cans beef and gravy
	2 cans baked beans (15 or 20-oz)
	2 jars cheese
	2 cans fish (8-oz)
<b>Canned and Dehydrated Soups:</b>	2 cans (10-oz) – bean, pea, tomato, vegetable

**Other Foods:**

1 large jar or can honey, syrup, jam or marmalade	1 jar sugar
2 lbs. hard candy	1 jar instant coffee
1 jar or can peanut butter	Salt and pepper
1 package tea bags or instant tea	Instant chocolate powder Chewing gum

**Special Requirements for Children**

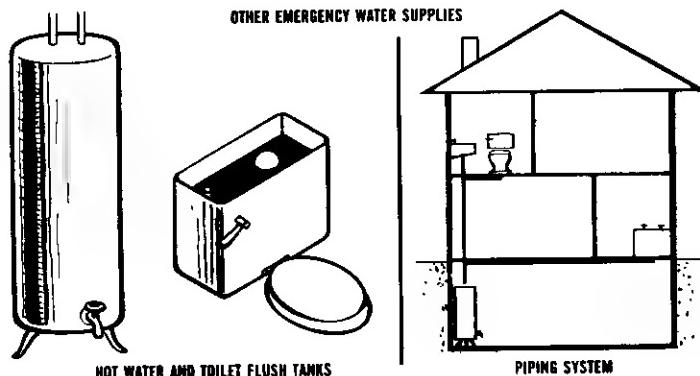
- For each infant include 14 cans evaporated milk (15 oz) and infant food for 14 days.
- For each child up to 3 years, include 8 extra cans of milk.
- Decrease amounts of other foods according to appetite.
- Food for older children can be the same as for adults; adjust amounts according to appetite.

**Water**

Requirements: 7-14 gallons for each adult member of family; more for younger children (some water may be replaced by canned beverages).

Containers: Store in well-cleaned, covered containers such as large thermos jugs, new fuel cans, large bottles, or plastic containers.

Change: Change stored water at least once a month.

**KNOW HOW TO PREVENT AND FIGHT FIRES**

Misinformation about the fire danger from nuclear explosions is widespread and common. For example, some persons believe that the fire-ball would completely incinerate a city. This is not true.

The heat from the fire-ball last about 15 seconds and would create fires which are no different from the fires you see in peacetime. They can be put out with water and extinguishers, and if each survivor were able to put out a small fire quickly, mass fires would not take place.

The heat flash from the fire-ball entering through windows and doors could set fire to curtains, clothes, furniture and paper. Other fires could break out in attics, in backyard trash, on wooden shingles and on the outside of houses built of wood particularly if they are unpainted or weathered.

Knowing how to prevent and fight fires at home and at work reduces the number of peacetime fires. The same knowledge will also reduce the number of fires caused by a nuclear explosion.

But how can you fight fires in the presence of fallout? From 5 to 15 miles from the centre of the explosion, there will be many survivors. Fallout will not start coming down for about 30 minutes. During this half hour, survivors should inspect their houses and put out all the small fires they can. They must not rely on the fire department to extinguish these fires.

You should have in your home and place of work, fire extinguishers, or in an emergency, create a water supply for fire fighting in pails, bathtubs, washtubs, etc. Don't rely on being able to use the established water supply system.

Even those who live in areas not attacked may find their fire departments will have to fight major fires elsewhere. Every householder should learn how to carry out fire prevention and know how to fight small fires. It may prove of value in peacetime!

Your local fire authorities are always anxious to advise you on how to fight fires. Attend any emergency fire fighting classes held in your area.

Here are some tips for an emergency:

- Prepare for emergency by preventing accumulations of trash and rubbish in and around the home. This would include dry leaves and grass, lumber, boxes, cardboard cartons, old unused furniture, bales of newspapers, etc. Keep waste and garbage in covered containers.
- The shaking and twisting of buildings and homes due to blast waves in wartime or earthquakes and explosions in peacetime, may break utility inlets at the point they enter the structure. This may allow gas or fuel oil to flow into basements creating a severe hazard. Do not smoke, strike a match, or a lighter, to light your way into a darkened basement. Gas or oil vapours may be present and a violent explosion and fire may result.
- To lessen the danger of fires and explosions follow local instructions about shutting off utility services when the **ATTACK WARNING** sounds.
- If you have a coal-burning furnace, or a wood-stove, extinguish it or at least be sure to close all fuel and draft doors.
- Close curtains shutters or venetian blinds on all windows and remove furniture from window areas.



### **TO FIGHT AN ORDINARY FIRE:**

- **Take away its fuel.** Get the burning material out of your home.
- **Take away its air.** Smother it with a blanket, wet if possible, or a rug.
- **Cool it** with water, earth, sand or fire extinguisher.

### **GAS, OIL, ELECTRICAL FIRES REQUIRE SPECIAL METHODS:**

- **Gas fire.** Make sure the gas is shut off and then try to extinguish anything still burning.
- **Oil fires.** Make sure the supply is shut off then smother the fire with earth, sand, rugs or other heavy materials — Don't use water.
- **Electrical fires.** Make sure the electricity is shut off then put out the fire. Don't use water if the power is still on.

**PROMPT ACTION TO PUT OUT SMALL FIRES  
IMMEDIATELY FOLLOWING A NUCLEAR ATTACK  
WILL SAVE LIVES.**

## KNOW FIRST AID AND HOME NURSING

The acquisition of First Aid and Home Nursing skills prepares individuals to serve effectively in a national emergency. If such an emergency occurs, the care of many thousands of injured or seriously ill persons becomes a tremendous task for the organized health services. Doctors and nurses may not be readily available to assist you. Thus the importance of First Aid and Home Nursing skills takes on a new dimension. The survival of the injured or sick members of your family may become your responsibility.

The main objectives of training individuals in first aid and home nursing are:

- (1) To preserve life
- (2) To minimize the effects of injury or illness
- (3) To relieve suffering or distress
- (4) To provide continuing care and assist in rehabilitation.

Therefore you must:

**Know and practice life-saving first aid.**

**Know and practice simple home nursing measures.**

### First Aid Supplies

A simple first aid box kept in your shelter or in your evacuation kit should contain:

1 bottle mild antiseptic solution	Use to clean cuts
5 yards 2-inch gauze bandage	
2 triangular bandages	Use for slings
12 4" x 4" sterile pads	Use to cover cuts, wounds and burns
12 assorted individual adhesive dressings	Use for minor cuts
2 large dressing pads (shell dressing type) 8" x 8"	(Available at minimal cost from St. John Ambulance Association)
5 yards $\frac{1}{2}$ inch adhesive tape	
9 assorted safety pins	
1 small bottle toothache drops	For temporary treatment of toothache

1 tube of petroleum jelly  
 1 small bottle aspirin tablets  
 1 thermometer  
 1 small scissors (blunt ended)  
 1 medicine glass  
 1 pair tweezers  
 4 oz baking soda  
 8 oz table salt

Make a drinking solution by adding  
 1 tsp salt and  $\frac{1}{2}$  tsp baking soda  
 to 1 qt. of water

1 First Aid Manual  
 1 Home Nursing Textbook

St. John Ambulance Association  
 St. John Ambulance Association and/  
 or Canadian Red Cross Society

1 packet paper tissues

**NOTE:** Individuals requiring special medication such as insulin should maintain at least 100-days supplies.

### First Aid Hints

#### General Rules:

Keep calm.

Keep the injured person lying down in a comfortable position, his head level with his body until you determine whether his injuries are serious.

Examine for stoppage of breathing, serious bleeding or broken bones. These must be treated *immediately* before any attempt is made to move the injured person. Do not be hurried into this unless you are in a situation of extreme danger.

Keep him comfortably warm with blankets or other coverings, under and above the patient.

Never attempt to give a semi-conscious or unconscious person anything to drink.

#### Unconsciousness

An unconscious patient lying on his back may be strangled by his own tongue which will tend to fall back and obstruct the airway. All unconscious persons should be placed lying half over on their faces, (three-quarter-prone position).

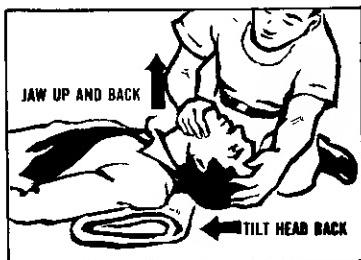
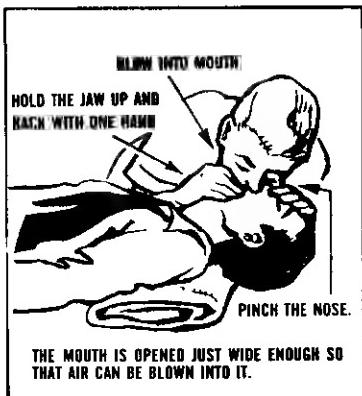
If the patient is breathing quietly and easily and his lips are pink

and have no froth on them, breathing is not obstructed.

*If the patient is breathing noisily and with difficulty, if his lips are blue and frothing, or if his chest is sucked inwards when he breathes in, his airway is obstructed and needs immediate attention.*

### Keep the airway clear by:

Placing the casualty on his back; supporting his shoulders on a pad of any suitable material available; tilting the head back with one hand on the forehead, the other lifting the neck.

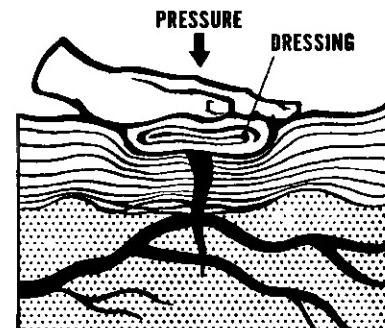
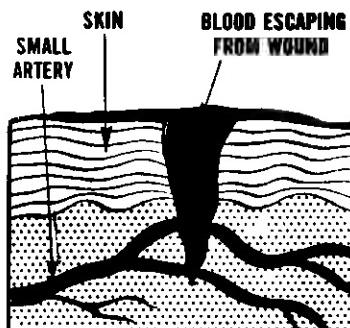


If his breathing stops you can breathe for the patient by blowing air into his lungs. Take a deep breath. Pinch the casualty's nostrils. Place mouth to mouth tightly. Blow into the casualty's lungs strongly enough to cause his chest to rise. The cycle should be repeated every 3 to 5 seconds for an adult and a little more frequently for a child. Blow more gently for a child or a baby, but strongly enough to make the chest rise.

### Wounds

You Must: Stop bleeding (haemorrhage)  
Keep out germs (infection).

Cover the wound with a clean dressing to keep out dirt and germs. Bandage it on firmly to stop the bleeding. If a wound is bleeding profusely, hold it firmly with your hand until you can secure an emergency dressing. Any thick pad of clean, soft, compressible material large enough to cover the wound will make a good dressing. Clean handkerchiefs, towels, sanitary pads, tissue handkerchiefs or sheets make good emergency dressings.



### Burns

Cover the burned area with large, thick, dry dressing and bandage it on firmly.

Encourage the casualty to drink plenty of fluids. A solution of salt and soda is useful to give to casualties with burns and to those who have suffered from serious bleeding.

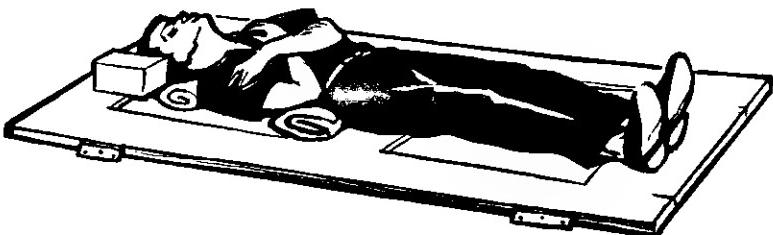
### Broken bones (fractures)

If a limb is very painful and cannot be used, appears to be bent in the wrong place or the casualty says he heard or felt the bone snap, it is likely that a bone is broken.

Sharp ends of a broken bone may damage important structures such as blood vessels and nerves. A broken limb should be

steaded and supported to prevent movement of the broken ends before attempting to move the patient.

If a person's back or neck is so severely injured that he is afraid to move because of pain, or cannot move or feel his limbs, you should assume that he has a broken back. He should be moved on a hard, firm stretcher taking great care not to "jack-knife" him by picking up his feet and shoulders. Improvised stretchers can be made from a door, wide board, window shutter, etc. Fill in the natural hollows of the back and neck with padding and support the head on both sides to prevent movement.



#### **DO NOT:**

- Put strong antiseptics into a wound.
- Use a tourniquet.
- Remove clothing which is stuck to a burn.
- Break any blisters or apply creams or grease to a large burn.
- Give anything by mouth to a semi-conscious patient, or to a patient with internal abdominal wounds.

## **HOME NURSING HINTS**

Before medical or nursing help becomes available you may also encounter infant care problems, emotional problems and persons suffering from radiation sickness. What to observe, and what to do for these latter cases, is outlined below.

### **Infant Care**

Breast feeding is preferable but, if not possible, then a formula using powdered or evaporated milk should be prepared under clean conditions.

If vomiting or diarrhoea occurs infants and children become dehydrated very quickly. To avoid this happening give frequent sips of boiled water.

If a rash or fever develops, keep others away from the sick child.

### **Emotional Problems**

Persons who become emotionally disturbed following a disaster should be treated calmly but firmly. They should be kept in small groups, preferably with persons whom they know and encouraged to "talk out" their problem. If they are not otherwise injured they should be given something to do. It may be necessary to enlist the aid of one other calm person to help subdue the over-excited patient. If a stunned or dazed reaction persists over 6 to 8 hours this should be reported to a doctor or nurse immediately one becomes available.

### **Radiation Sickness**

The signs and symptoms of this illness are described in Step 2, page 15.

Treatment includes rest, the provision of whatever nutritional food and drink is available and personal encouragement to get well. Swab the mouth gently with mild, warm salt and water if it becomes sore. As these patients are susceptible to infection, keep wounds clean and covered with a sterile dressing. Separate these patients from persons with colds, rash or fever.

## Improvised Equipment

The following suggestions may help you care for your patient when proper equipment is not available.

**Bed** — A couch, mattress or any well padded, firm surface; if too low raise on bricks, boxes or wooden blocks.

**Bedding Protection** — Old crib pads cut into a convenient size and placed over a waterproof sheeting; or several layers of newspaper and heavy brown paper covered with old soft cotton. (Never use thin plastic if patient is a child.)

**Backrest** — A straight-backed chair turned upside down at head of bed and securely tied to bed; a triangular bolster or cushions from a chair or chesterfield.

**Bed Cradle** — A light wooden box or firm cardboard carton approximately 10 x 12 x 24 inches, with two sides removed; or a hoop sawn in half and the two pieces joined together in the centre.

**Pressure Pads** — Soft cushion or foam or sponge rubber pads will protect heels, elbows, back of head or any other body pressure point.

**Bedpan or Urinal** — For bedpan use a padded dish or pan; for urinal any wide-necked bottle or jar.

**Hot Water Bottle** — A heated brick wrapped in several layers of newspaper.

## START TRAINING NOW!

**ONE PERSON IN EVERY FAMILY SHOULD BE TRAINED IN FIRST AID AND/OR HOME NURSING.** Courses in these skills are available in most municipalities from your local St. John Ambulance Association or Canadian Red Cross Society.

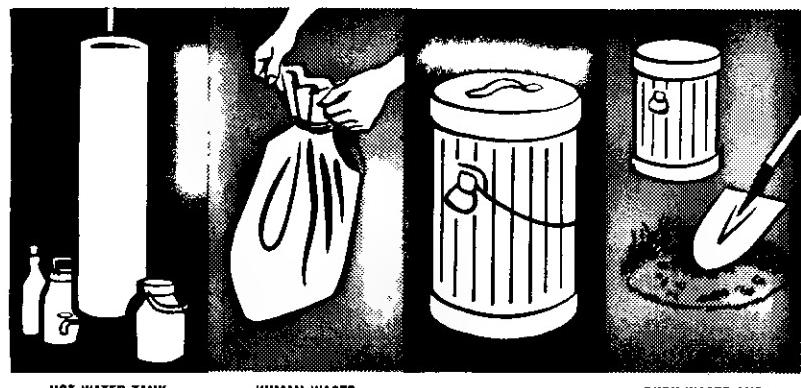
## REGISTER NOW!

## KNOW EMERGENCY CLEANLINESS

Your limited supply of water will have to be rationed and used only for essential purposes. If you have enough warning time before the arrival of fallout, fill your bathtub, all available buckets and pans with water. And remember that there is an emergency supply in your hot water tank. (Don't forget this if in peacetime your water supply has been temporarily disrupted).

The problems of garbage and human waste disposal can be solved even if fallout keeps you in the shelter. Put all your garbage in tightly covered garbage pails. After using your emergency toilet, you should tie human waste in waterproof plastic (polyethylene) bags and place them in the garbage pail. Store a 14-day supply of the plastic bags.

After the second day in the shelter, you may risk leaving it for a few minutes for essential tasks. Therefore, when your garbage container is filled, move it out of the shelter.



HOT WATER TANK  
AS SOURCE OF WATER

HUMAN WASTE  
IN PLASTIC BAG

GARBAGE CAN FOR WASTE

BURY WASTE AND  
GARBAGE WHEN SAFE

Keep a soft broom in the shelter for tidying it up.

Remember, personal cleanliness in crowded shelter conditions is important to you and your family.

If your area is free of fallout but is without sewage services, bury human waste and garbage in the ground. Dig the pit deep enough so that the waste will be covered by at least two feet of earth.

## KNOW HOW TO GET RID OF RADIOACTIVE DUST

In Step 2, fallout was described as "sand". To remove the danger, remove the sand. If you suspect that your clothes have fallout on them, remove your outer clothing before you come inside your home and leave it outside. Don't shake these clothes inside the house or shelter. You would only scatter the fallout grit and create unnecessary danger to others. If you have water, wash thoroughly, particularly exposed skin and hair. But do not scrub your skin as this might rub in the radioactive particles.

*Exposure to fallout does not make you radioactive.*

Even if you are stricken with radiation sickness, *this sickness cannot be passed on to others.*

Fallout on your clothing or body would expose you and those close to you to radiation. If you suspect you have been exposed to fallout, you will not be a danger to others if you carefully get rid of your outer clothing outside the shelter and wash.



### Food and Water

Since most of your food will be in tightly covered containers (cans, bottles, plastic, boxes), it will all be safe to eat or drink *if* you dust the containers. Food, if it is unspoiled and free of grit or dust, may be eaten during the emergency period.

Be sure to wash fruit and vegetables and peel carefully.

Water will be safe if it is in covered containers, or if it has come from covered wells, or from undamaged water systems.

## **KNOW YOUR MUNICIPAL PLAN**

It is important that your local municipality have a plan for a war emergency. And it is just as important that you know that plan.

Over the past several years, provincial and municipal governments, with the assistance of federal authorities, have been steadily developing plans for the protection of the population and the continuity of essential government services in wartime. Most municipalities in Canada have emergency plans to deal with both peacetime disasters and a nuclear attack situation. These include the details of how welfare, health, police, public utilities, fire and other emergency services will operate.

Some larger communities have developed plans to assist in the evacuation of those who would choose to leave before an attack or who might have to be evacuated as survivors or casualties following an attack. These plans include traffic arrangements to reception centres and medical facilities in nearby communities.

It would be unwise to try and prepare your own family survival plan without first checking to see how it fits in with municipal plans. This would be true whether you plan to go to a safer area before attack or remain at home. It is particularly important that you know and understand the arrangements to instruct the public about staying in shelter and coming out of shelter when it is safe. Fallout is a health hazard which will require countermeasures for personal and family protection including assessment of radiation and advice and instructions to those in shelter.

There must be close understanding and cooperation between the public and municipal authorities responsible for their protection.

Find out about your municipal emergency plans now and keep well informed about them as they are further developed.

## **HAVE A PLAN FOR YOUR FAMILY AND YOURSELF**

If you know what is contained in the first nine steps, and you know your municipal plan for a war emergency, you should now make your personal and family survival plan. The success of your plan will depend on how many of the suggested recommendations you carry out. Your chances of survival increase as you carry out each recommendation.

Thinking about the problems with which you would be faced should nuclear attack be launched against North America is the first important step. Blast, light, heat and radioactive fallout are the problems. A workable survival plan will include all of the preparations you can make in advance to meet those problems.



In making that plan, there are certain things you must know:  
(Check ✓ your answer)

### **When to take protective action**

When the sirens or other warning devices sound and your local broadcast station confirms that an attack on North America has been detected it means that you must take protective action immediately. Would you and your family

- Recognize the Attack Warning signal?
- Turn on the radio or television and listen for instructions?

### **Where to take shelter**

Deciding where you will take initial protective action and where you and your family will seek shelter from fallout are two basic points which you must consider in making your survival plan. Can you answer the following questions about seeking immediate protection and shelter:

- Have you decided where you will take shelter if you're not at home when the Attack Warning sounds?
- Will you try to get home?
- Will your family know what to do if you are not at home?
- Is there a shelter plan for your children at school?
- Do you want them to try to get home?
- Does everybody in your family know your survival plan?

In thinking about what you will do or where you would go, you might consider leaving your home to find shelter elsewhere. Before you decide to plan on evacuation, consider the following questions:

- Will protection there be better than in your home?
- Are there sufficient supplies there?
- Can you carry emergency supplies for 14 days?

- Do you know how to get there quickly?

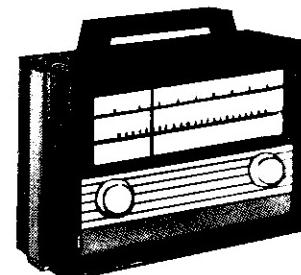
### **How to take shelter**

If you don't have a fallout shelter built in your home, study the guide given in Step 4. It shows how you can improvise emergency home protection. Bearing in mind that density and distance between you and the fallout is necessary, try to estimate if there is enough material and furniture to build an emergency shelter in your basement or the central part of your house.

- Can you move it to where it will be needed quickly?
- Will you have the help you require?

Based on the lists of emergency supplies suggested in Steps 5, 6, 7 and 8, try to answer the following questions:

- Do you have them at home?
- Can you collect and move them to the shelter area quickly?
- Does your emergency cooker, lamp, flashlight, radio work?
- Have you containers for water, garbage, hygiene?
- **DO YOU HAVE A BATTERY RADIO AND SPARE BATTERIES?**



There are many other points which you and your family must resolve for a workable survival plan. This booklet provides most of the essential information on which to base your plans. Read the Steps again, and, as you review each Step, try to answer the questions which apply to your surroundings, your home, your family. Here are a few more which may help:

- Do I know the recommended fire precautions?
- Does anyone in my family know how to fight small fires?
- Can an emergency supply of water be obtained quickly —  
for fire fighting?   
for personal use?
- Are first aid supplies and special medicines readily available?
- Does anyone in my family know how to render first aid?
- Can materials for personal hygiene and cleanliness be gathered near the shelter area quickly?
- Do I know what I must do about radioactive dust?
- Do I know the emergency plans of my municipality —  
for public shelters?   
for planned evacuation routes?   
for schools, hospitals, welfare centres?   
other special instructions?

**REMEMBER! YOU MUST PLAN FOR:**

- PROTECTIVE ACTION WHEN WARNED OF ATTACK  
and
- PROVISION OF SHELTER AGAINST THE EFFECTS  
OF FALLOUT

On the basis of what you've read and the questions and answers you've thought about, you should now make your survival plan and start making whatever arrangements you can. **BUT MAKE SURE THAT ALL MEMBERS OF YOUR FAMILY KNOW YOUR PLAN AND WHAT TO DO WHEN THE TIME COMES.**

The best way to arrive at a workable plan which will be remembered by your family is to practise it. If you plan on building an emergency shelter, try it now to find out if you have enough material, how much help you'll need, if your proposed area is large enough, and how long it will take to build. Locate and practise moving essential supplies, water, clothing, bedding, etc. Practise the essential things you would have to do.

If you plan to move to what you consider a safer location, make a practise run to make sure you know the quickest and safest route, that protection is available when you get there, and that you can carry all the supplies you think you'll need.

**A GOOD SURVIVAL PLAN IS A PLAN  
WHICH YOU KNOW  
YOU CAN CARRY OUT**

**WRITE DOWN THE IMPORTANT PARTS  
OF YOUR PLAN**

On the following blank pages, list for quick reference the important things to be done in the event of warning. As examples, note when and where all members of your family will take shelter at all times; where essential items of food, shelter and other supplies will be obtained; how shelter will be improvised; what windows must be blocked; if you plan on going to what you consider a safer area, details of the route and supplies you will need at your destination.